

[This question paper contains 2 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 5013

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Unique Paper Code : 3184000016

Name of the Paper : Pharmacological Science

Name of the Course : **GE - Biomedical Science (NEP-UGCF)**

Semester : VIII

Duration : 3 Hours

Maximum Marks : 90

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt **five** questions in all
3. Question no. 1 is compulsory.
4. Attempt subparts of a question together.

Q1. (a) Define (Any Six)

(6x2=12)

- i. Non-Proprietary Name
- ii. Blood brain barrier
- iii. Therapeutic Window
- iv. Pharmacodynamics
- v. Local routes of drug administration
- vi. Aerosol dosage forms
- vii. Potency

(b) Differentiate between (Any Three)

(3x4=12)

- i. Insulin and Insulin analogs
- ii. Membrane receptors and Membrane transporters
- iii. Drug absorption and Drug distribution
- iv. Selective NSAIDs and Non-Selective NASIDs

(c) State True or False. Justify your answer. (Any Two)

(2x3=6)

- i. LD₅₀ is sometimes used instead of TD₅₀ in calculating therapeutic index.
- ii. Idiosyncratic drug reactions are related to genetic differences.
- iii. All analgesics have anti-inflammatory action.

P.T.O.

Q2. Write mechanism of action of the following drugs along with their clinical use (Any Three) (3x5=15)

- a. Ciprofloxacin
- b. Amphotericin B
- c. Ibuprofen
- d. Oral antidiabetic agent

Q3. Write short note on

(3x5=15)

- a. DRC
- b. Sublingual route of drug administration
- c. Sedative drugs

Q4.

- (a) Discuss the risks and precautions associated with long-term HRT use.
- (b) Differentiate between nicotinic and muscarinic receptors.
- (c) Discuss the influence of urinary pH on renal excretion and tubular reabsorption of drugs. (5,5,5)

Q5.

- (a) Discuss the role of broad-spectrum antibiotics in the development of Superinfection.
- (b) Differentiate between competitive and non-competitive antagonists.
- (c) Explain the concept of biological half-life and its clinical significance in pharmacokinetics. (5,5,5)

Q6.

- (a) Describe the mechanism by which drugs modulate membrane ion channels to produce therapeutic effects.
- (b) Explain why a drug with high affinity may not always produce a strong physiological response.
- (c) Define bioavailability and discuss its significance, methods of measurement, and factors affecting it. (5,5,5)